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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,922	08/04/2003	Moungi G. Bawendi	14952.0274 C1 D1/MTT 8096	4946
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EXAMINER				
STEELE, AMBER D				
ART UNIT		PAPER NUMBER		
1639				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/632,922

Applicant(s)

BAWENDI ET AL.

Examiner

AMBER D. STEELE

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 12-13, 26-27, 31-33, and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 12, 13, 26, 27, 31-33 and 37-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-849)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Status of the Claims

1. Claims 1-39 were originally filed on August 4, 2003.

The amendment to the claims received on April 27, 2006 amended claims 1, 26, and 37.

The amendment to the claims received on October 17, 2006 amended claims 1, 26, and 37 and canceled claims 4-11, 14-25, 28-30, and 34-36.

The amendment to the claims received on December 4, 2007 amended claims 1, 26, and 37.

The amendment to the claims received on June 19, 2008 changed the status identifiers only.

The amendment to the claims received on March 26, 2009 amended claims 1 and 26.

The amendment to the claims received on April 23, 2010 changed the status identifiers only.

The amendment to the claims received on August 5, 2010 amended claims 1, 26, and 37.

Claims 1-3, 12-13, 26-27, 31-33, and 37-39 are currently pending and under consideration.

Priority

2. The present application claims status as a DIV of 09/397,432 filed September 17, 1999 (now U.S. Patent 6,602,671) which is a CIP of 09/160,458 filed September 24, 1998 (now U.S. Patent 6,617,583) and claims benefit of 60/101,046 filed September 18, 1998.

3. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(c) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 09/160,458 (now U.S. Patent 6,617,583) and U.S. provisional application 60/101,046, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. Application No. 09/160,458 (now U.S. Patent 6,617,583) fails to disclose HgS, HgSe, HgTe, InN, or AlAs and U.S. provisional application 60/101,046 fails to disclose HgS, HgSe, HgTe, MgTe, InN, AlAs, AlS, or Pb. Therefore, the filing date for the present application is September 17, 1999 (i.e. filing date of 09/397,432 – now U.S. Patent 6,602,671).

Invention as Claimed

4. A library of compounds wherein each compound in the library is bound to an individual support, each support having associated therewith more than one population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission, wherein each nanocrystal comprises a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV

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semiconductor selected from a group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe, CdTe, HgS, HgSe, HgTe, MgTe, GaN, GaP, GaAs, GaSb, InN, InP, InAs, InSb, AlAs, AlP, AlSb, AlS, Ge, Si, or Pb and variations thereof.

New Objections Necessitated by Amendment

Claim Objections

5. Claim 26 is objected to because of the following informalities: claim 26 has an improper status identifier. Appropriate correction is required.

6. Independent claims 1, 26, and 37 and all dependent claims are objected to because of the following informalities: claims 1, 26, and 37 do not have a proper connective. “[W]herein each nanocrystal comprises a Group II-VI semiconductor, a Group III-V semiconductor, **or** a Group IV semiconductor selected from a group consisting of...” (emphasis added) is suggested.

Appropriate correction is required.

Maintained Rejections

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3, 12-13, 26-27, 31-33, and 37-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Chee et al. U.S. Patent 6,544,732 filed May 20, 1999.

For present claims 1-3, 12-13, 26-27, 31-33, and 37-39, Chee et al. teach libraries or populations of compounds comprising compounds bound to a support wherein each support has more than one population of semiconductor nanocrystals associated therewith wherein the semiconductor nanocrystals can be CdSe, InP, InAs, GaAs, CdS, etc.; the semiconductor nanocrystals can have a core/shell structure; the semiconductor nanocrystals have an optical signature; the support is a bead, fiber, etc. which is made of glass, polystyrene, etc.; the compound is a polypeptide, etc. (please refer to the entire specification particularly the abstract; columns 3-15; claims 1-18).

Therefore, the presently claimed invention is anticipated by the teachings of Chee et al.

Arguments and Response

9. Applicants' arguments directed to the rejection under 35 USC 102 (e) as being anticipated by Chee et al. for claims 1-3, 12-13, 26-27, 31-33, and 37-39 were considered but are not persuasive for the following reasons.

Applicants contend that the present application has priority to September 24, 1998 which precedes the filing date of Chee et al.

Applicants' arguments are not convincing since the teachings of Chee et al. anticipate the library of the instant claims. Chee et al. has a prior art date of May 20, 1999 while the present claims as a whole have a priority date of September 17, 1999 (i.e. filing date of U.S. Patent 6,602,671; see priority section above).

10. Claims 1-3, 12-13, 26-27, 31-33, and 37-39 are rejected under 35 U.S.C. 102(c) as being anticipated by Weiss et al. U.S. Patent 6,207,392 (filing date of March 1, 1999; effective filing date of November 25, 1997).

For present claims 1-3, 12-13, 26-27, 31-33, and 37-39, Weiss et al. teach semiconductor nanocrystal compounds comprising one or more semiconductor nanocrystals, one or more linking agents, and optionally an affinity molecule wherein the semiconductor nanocrystal can be encased in glass or the semiconductor nanocrystals can be within pores of carriers (i.e. support) and wherein the semiconductor nanocrystals can be Group II-VI, Group III-V, Group IV, and include MgTe, CdS, CdSe, CdTe, HgS, HgSe, HgTe, InP, and InAs; the semiconductor nanocrystals can have a core/shell configuration, the support can be glass, etc.; the semiconductor nanocrystals emit light; and the linking agent and affinity molecules can be chemicals, proteins, polypeptides, etc. (please refer to the entire specification particularly the abstract; Figures 1-4; columns 2, 4-14).

Therefore, the presently claimed invention is anticipated by the teachings of Weiss et al.

Arguments and Response

11. Applicants' arguments directed to the rejection under 35 USC 102 (c) as being anticipated by Weiss et al. for claims 1-3, 12-13, 26-27, 31-33, and 37-39 were considered but are not persuasive for the following reasons.

Applicants contend that the present specification defines "solid support" as "an insoluble material to which compounds are attached during a synthesis sequence" (page 28, lines 8-9) and the present specification provides examples of solid supports at page 28, lines 14-19. Applicants contend that Weiss et al. does not teach more than one population of semiconductor nanocrystals

associated with a support and the support taught by Weiss et al. does not provide a material to which compounds are attached but provides a surface on the nanocrystal that will readily associate with the linking agent. Applicants also contend that pores of carriers does not have a prior art date of November 25, 1997.

Applicants' arguments are not convincing since the teachings of Weiss et al. anticipate the product of the instant claims.

See MPEP § 2113 regarding product-by-process limitations.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., to which compounds are attached during a synthesis sequence) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Weiss et al. teach structures including (1) one or more semiconductor nanocrystals, (2) one or more linking agents, (3) one or more affinity molecules, and/or (4) one or more detectable substances wherein the linking agent can also be a three-dimensional structure which may be either organic or inorganic and which may be either a solid or hollow (i.e. a sphere) permitting the linking agent to have bonded thereto more than one semiconductor nanocrystals...each probe contains a plurality of semiconductor nanocrystals all bound to a single three-dimensional linking agent in the same probe...when the three-dimensional linking agent structure is porous (or non-porous) solid the semiconductor nanocrystal may be embedded therein...polymer sphere...the three-dimensional linking agent structure comprises glass...glass sphere (please

refer to the entire specification particularly Figure 4; columns 9-11, section d. The Linking Agents; columns 11-16, section e. Compounds and Probes having Three-Dimensional Structured Linking Agents).

Weiss et al. has a prior art date of November 25, 1997 (effective filing date) and/or March 1, 1999 (filing date). The present application has a priority date of September 17, 1999 (see priority section above).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Future Communications

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMBER D. STEELE whose telephone number is (571)272-5538. The examiner can normally be reached on Monday through Friday 9:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amber D. Steele/
Primary Examiner, Art Unit 1639